

Papers Presented at Scientific Meetings

Toroid Cavity NMR Detector Applications at Low and High Magnetic Fields

R. E. Gerald II, R. J. Klingler, and J. W. Rathke

Presented at the 42nd Experimental Nuclear Magnetic Resonance Conf.,
March 11-16, 2001

Argonne's Autothermal Fuel Processor

M. Krumpelt, S. Ahmed, and C. Pereira

Presented at the 2nd DOD Diesel Fuel Reforming Coordination Meeting,
Washington, DC, December 6, 2001

Heat Treatment Strategies for the Next Generation of Ag/Bi-2223 Composite Conductor

V. A. Maroni, R. M. Baurceanu, K. Venkataraman, Y. Tang, C. Segre,

R. D. Parrella, Y. Huang, and G. N. Riley, Jr.

Presented at the US/Japan Workshop on High-Tc Superconductors,
Santa Fe, NM, December 2-5, 2001

A Summary of Generation IV Non-Classical Power Reactor Concepts

S. Anghaie and D. Lewis

Presented at the Am. Nucl. Soc. 2001 Winter Meeting, Reno, NV,
November 11-15, 2001

Accounting for HLW Glass Degradation in Performance Assessment Calculations

W. L. Ebert, J. C. Cunnane, and T. A. Thornton

Presented at the PAC RIM 4 Conf., Maui, HI, November 4-8, 2001

Monitoring the Consistency of Multiphase Waste Forms

W. L. Ebert, M. A. Lewis, and S. G. Johnson

Presented at the Am. Nucl. Soc. Winter Meeting, Reno, NV,
November 11-15, 2001

Precipitation of Crystalline NpO₂ During Oxidative Corrosion of Neptunium-Bearing Uranium Oxides

R. J. Finch

Presented at the Fall Meeting of the Mater. Res. Soc., Boston, MA,
November 26-30, 2001

Neptunium Incorporation in Uranium(VI) Compounds Formed During the Aqueous Corrosion of Neptunium-Bearing Uranium Oxides

R. J. Finch, E. C. Buck, and S. F. Wolf

Presented at the Fall Meeting of the Mater. Res. Soc., Boston, MA,
November 26-30, 2001

Corrosion Tests of LWR Fuelsó Nuclide Release

P. A. Finn, Y. Tsai, and J. C. Cunnane

Presented at the Fall Meeting of the Mater. Res. Soc., November 26ñ30, 2001

Radiogenic Transmutation Effects in a Crystalline Aluminosilicate Ceramic: A TEM Study

J. A. Fortner, S. B. Aase, and D. T. Reed

Presented at the Fall Meeting of the Mater. Res. Soc., Boston, MA, November 26ñ30, 2001

A High Surface Area-To-Solution Volume, Static Test of IBR-II Irradiated Mixed-Oxide Fuel

J. A. Fortner, P. A. Finn, and M. M. Goldberg

Presented at the Fall Meeting of the Mater. Res. Soc., Boston, MA, November 26ñ30, 2001

Corrosion of EBR-II Irradiated Mixed-Oxide Fuel by a Static Aqueous Thin Film

J. A. Fortner, M. M. Goldberg, and C. Shelton-Davis

Presented at the Fall Meeting of the Mater. Res. Soc., Boston, MA, November 26ñ30, 2001

Microscopic and Physico-Chemical Characterization of Actinide Contaminants in Soils

J. A. Fortner, S. F. Wolf, N. J. Dietz, and R. E. Einziger

Presented at the 13th Technical Information Exchange Workshop, Sandia National Laboratories, Albuquerque, NM, November 13ñ15, 2001

Corrosion of Glass-Bonded Sodalite and Its Components as a Function of pH and Temperature

S.-Y. Jeong, L. R. Morss, A. J. Morgan, and W. L. Ebert

Presented at the Fall Meeting of the Mater. Res. Soc., Boston, MA, November 26ñ30, 2001

Argonne On & Off Board Sulfur Removal Projectó Status

M. Krumpelt

Presented at the Int. H₂ Infrastructure Program Meeting Agenda, Detroit, MI, November 9, 2001

Solid Oxide Fuel Cell Research at Argonne National Laboratory

M. Krumpelt

Presented at SECA Core Technology Program Meeting, Pittsburgh, PA, November 16, 2001

Direct Contact Pyrolysis of Methane Using Nuclear Reactor Heat

M. A. Lewis, M. Serban, C. L. Marshall, and D. Lewis

Presented at the Am. Nucl. Soc. Winter Meeting, Reno, NV, November 11-15, 2001

Ceramic-Metal Interface Stability

S. M. McDeavitt, G. W. Billings, and J. E. Indacochea

Presented at the ASM Int. Materials Solution Conf., Indianapolis, IN, November 5-8, 2001

Corrosion of HT9 Stainless Steel by Lead-Based Reactor Coolants

S. M. McDeavitt, L. Leibowitz, V. A. Maroni, J. M. Runge, L. A. Barnes, and C. T. Snyder

Presented at the Am. Nucl. Soc. Winter Meeting, Reno, NV, November 14, 2001

Properties of Plutonium-Containing Colloids Released from Glass-Bonded Sodalite Nuclear Waste Form

L. R. Morss, C. J. Mertz, A. J. Kropf, N. L. Dietz, and J. L. Holly

Presented at the Fall Meeting of the Mater. Res. Soc., Boston, MA, November 26-30, 2001

Fuel Cells for Transportation

C. Pereira

Presented at the Fox Valley Section of the Am. Soc. of Mechanical Engineers, Lisle, IL, November 29, 2001

Fuel Processor for Fuel Cell Systems

C. Pereira, S. H. D. Lee, T. D. Kaun, S. Ahmed, and M. Krumpelt

Presented at the AIChE Annual Meeting, Reno, NV, November 4-9, 2001

Solvent Recovery from Aqueous Effluents Using a Centrifugal Contactor

H. A. Arafat and R. A. Leonard

Presented at the 12th Symp. on Separation Science and Technology for Energy Applications, Gatlinburg, TN, October 15-18, 2001

Battery and Fuel Cell Testing and Evaluation in CMT

I. D. Bloom, D. J. Andrekus, E. G. Polzin, C. E. Webster, S. A. Jones, B.

G. Potter, and J. E. Kulaga

Presented at the CMT Technical Seminar, Argonne National Laboratory, Argonne, IL, October 10-2001

Small Angle X-ray Scattering from Yucca Mountain Groundwater Colloids

J. A. Fortner, C. J. Mertz, and P. R. Jemian

Presented at Argonne National Laboratory, Argonne, IL, October 9-11, 2001

EXAFS and Activity Studies of the Poisoning Effect of Cl on Pt/Al₂O₃ Catalysts during Oxidation Reactions

F. Gracia and E. E. Wolf

Presented at the Ninth Int. Symp. On Catalyst Deactivation, Lexington, KY, October 7-10, 2001

Analysis of InSb Electrode Phase Conversion by *In Situ* X-Ray Absorption Spectroscopy

C. S. Johnson, A. J. Kropf, H. Tostmann, J. T. Vaughey, and M. M. Thackeray

Presented at the 11th Users Meeting for the Advanced Photon Source Meeting, Argonne National Laboratory, Argonne, IL, October 9-11, 2001

Radionuclide Separations in a Novel Chemical Decontamination Process

M. D. Kaminski and L. Nunez

Presented at the 12th Symp. on Separation Science and Technology for Energy Applications, Gatlinburg, TN, October 15-18, 2001

A Bent Crystal Optic for Resolving Fluorescence X-Rays in Mixed Actinide Systems

A. J. Kropf

Presented at the 11th Users Meeting for the Advanced Photon Source, Argonne National Laboratory, October 9-11, 2001

Experimental Verification of Caustic-Side Solvent Extraction for Removal of Cesium from Tank Waste

R. A. Leonard, S. B. Aase, H. A. Arafat, D. B. Chamberlain, C. Conner,

M. C. Regalbuto, and G. F. Vandegrift

Presented at the 12th Symp. on Separation Science and Technology for Energy Applications, Gatlinburg, TN, October 15-18, 2001

Simulant Flowsheet Testing with Modified Solvent (2-cm Scale)

R. A. Leonard, S. B. Aase, H. A. Arafat, C. Conner, M. C. Regalbuto, and

G. F. Vandegrift

Presented at the 12th Symp. on Separation Science & Technology, Gatlinburg, TN, October 10-15, 2001

Applications of Molecular Spectroscopy Methods to the Study of Metal Dusting Corrosion

V. A. Maroni

Presented at the Int. Workshop on Metal Dusting, Argonne National Laboratory, Argonne, IL, September 26-28, 2001

Applications of FTIR Spectroscopy to Problems in Materials Science

V. A. Maroni, S. A. Johnson, K. T. Wu, and P. D. Maroni

Presented at the 40th Eastern Analytical Symp. and Exposition, Atlantic City, NJ, October 1-4, 2001

Power Sources for the Objective Force Warrior

J. F. Miller

Presented at the Objective Force Warrior Workshop, Oak Ridge, TN, October 1-3, 2001

Verification of the UREX Flowsheet

L. Nunez, G. F. Vandegrift, D. L. Bowers, J. Sedlet, S. F. Wolf, and Y. Tsai

Presented at the 12th Symp. on Separation Science and Technology for Energy Applications, Gatlinburg, TN, October 15-18, 2001

XANES/EXAFS Studies of Actinides in Environmental Samples

D. T. Reed, A. J. Kropf, R. J. Finch, L. R. Morss, S. B. Aase, C. Degueldre, L. A. Curtiss, and B. E. Rittmann

Presented at the 11th Users Meeting for the Advanced Photon Source, Argonne National Laboratory, Argonne, IL, October 9-11, 2001

Development of an Optimized UREX Flowsheet for the ATW Program Using USEM

M. C. Regalbuto, J. M. Copple and G. F. Vandegrift

Presented at the 12th Symp. On Separation Science and Technology for Energy Applications, Gatlinburg, TN, October 15-18, 2001

In-situ XRD Studies of Phase Transitions in Lithiated Intermetallic Anodes

L. Fransson, E. K. Edstrom, J. O. Thomas, J. T. Vaughey, and M. M. Thackeray

Presented at the 200th Meeting of the Electrochem. Soc., San Francisco, CA, September 2-7, 2001

High-Pressure NMR Studies in Supercritical Media

R. J. Klingler, J. W. Rathke, M. J. Chen, and R. E. Gerald II

Presented at the Sixth Int. Conf. On Carbon Dioxide Utilization, Beaver Run Resort, Breckenridge, CO, September 9-14, 2001

Autothermal Reforming of New Gasoline for Fuel Cell Applications

J. P. Kopasz, M. A. Pacheco, S. Ahmed, X. Wang, and M. A. M. rquez

Presented at the Seventh Grove Cell Symp., Westminster, London, United Kingdom, September 11-13, 2001

Metal-Support Interactions in Autothermal Reforming Catalysts Based on Transition Metals on Oxide Ion Conducting Supports

T. R. Krause, J. D. Carter, J.-M. Bae, S. Ahmed, and M. Krumpelt
Presented at the 4th World Congress on Oxidation Catalysis, Berlin, Germany, September 16–21, 2001

An *In Situ* X-Ray Absorption Spectroscopy Study of InSb Electrodes in Lithium Batteries

A. J. Kropf, H. Tostmann, C. S. Johnson, J. T. Vaughey, and M. M. Thackeray
Presented at the 200th Meeting of the Electrochem. Soc., San Francisco, CA, September 2–7, 2001

Nondestructive Transmission X-ray Diffraction Analysis of the Silver-Sheathed Bi2223 Composite Superconductor

V. A. Maroni, K. Venkataraman, A. J. Kropf, Y. Huang, C. Segre
Presented at the 11th Users Meeting for the Advanced Photon Source, Argonne National Laboratory, Argonne, IL, October 9–11, 2001

Colloids and U.S. DOE Fuels: Corrosion of Metallic Uranium Fuel

C. J. Mertz, M. D. Kaminski, S. F. Wolf, Y. Tsai, Y. Vojta, and J. L. Holly
Presented at the Eighth Int. Conf. on Chemistry and Migration Behavior of Actinides and Fission Products in Geosphere, Bregenz, Austria, September 16–21, 2001

Overview of Argonne's Battery and Fuel Cell Research

J. F. Miller
Presented at the Argonne/DOE/Community Leaders Round Table Meeting, Argonne National Laboratory, Argonne, IL, September 19, 2001

Aging and Life Analyses of Generation 2 Advanced Technology Development Lithium-Ion Cells

C. G. Motloch, J. P. Christophersen, R. B. Wright, and V. S. Battaglia
Presented at the 200th Meeting of the Electrochem. Soc., San Francisco, CA, September 2–7, 2001

Homogeneous Catalysis in Supercritical Fluids

J. W. Rathke, R. J. Klingler, M. J. Chen, R. E. Gerald II, and D. S. Hacker
Presented at Argonne National Laboratory, Argonne, IL, September 12, 2001

XANES/EXAFS Studies of Actinides in Environmental Samples

D. T. Reed, A. J. Kropf, R. J. Finch, L. R. Morss, S. B. Aase, C. Degueldre, L. A. Curtiss, and B. E. Rittmann
Presented at the Eighth Int. Conf. On Chemistry and Migration Behaviour of Actinides and Fission Products in the Geosphere, Bregenz, Austria, September 16–21, 2001

Diffusional Transformations of InSb Electrodes in Lithium Cells

T. Sarakonsri, S. A. Hackney, C. S. Johnson, J. T. Vaughey and M. M. Thackeray
Presented at the 200th Meeting of the Electrochem. Soc.
San Francisco, CA, September 2–7, 2001

Biosorption of Neptunium (V) by *Pseudomonas Fluorescens*

W. Songkasiri, D. T. Reed, and B. E. Rittmann
Presented at the Eighth Int. Conf. on Chemistry and Migration Behaviour
of Actinides and Fission Products in the Geosphere, Bregenz, Austria,
September 16–21, 2001

Phosphine-Modified Cobalt Catalysts for Hydroformylation in Supercritical CO₂

M. J. Chen, R. J. Klingler, and J. W. Rathke
Presented at the 10th Int. Symp. and Exhibition on Supercritical Fluid
Chromatography, Extraction, and Processing, Myrtle Beach, SC, August
19–22, 2001

NMR of SAMs on Electrode Surfaces

R. E. Gerald II, J. W. Rathke, and L. E. Iton
Presented at the NMR Symp. of the 43rd Rocky Mountain Conf. on
Analytical Chemistry, Denver, CO, July 29–August 2, 2001

Fuels Processing for Small Fuel Cell Systems

M. Krumpelt, S. Ahmed, T. R. Krause, R. Kumar, and J. P. Kopasz
Presented at the Am. Chem. Soc. 222nd National Meeting, Chicago, IL,
August 26–30, 2001

Advanced Nuclear Reactors: A Chemist's View

D. Lewis
Presented at the University of Florida, Department of Chemistry,
Gainesville, FL, August 3–4, 2001

An Apparatus for Simultaneous Differential Scanning Calorimetry/Powder X-ray
Diffraction

D. Lexa, L. Leibowitz, and A. J. Kropf
Presented at the 56th Calorimetry Conf. Colorado Springs, CO, July 29–
August 3, 2001

An Apparatus for Simultaneous Differential Scanning Calorimetry/Powder X-Ray
Diffraction

D. Lexa, L. Leibowitz, and A. J. Kropf
Presented at the DEST Deutsches, Elektronen-Synchrotron, Hamburg,
Germany, August 9, 2001

Infrared Thermography and EXAFS Studies of the Effects of Chlorine (Cl) during CO Oxidation on Pt Supported Catalysts

W. Li, F. Garcia, J. Kropf, J. Miller, and E. E. Wolf

Presented at the Am. Chem. Soc. 222nd National Meeting, Chicago, IL, August 26-30, 2001

An Investigation on the Catalytic Behavior of Modified Mesoporous Catalyst Supports for Hydrodesulfurization

C. L. Marshall

Presented at the ITT, Chemistry Department, Chicago, IL, September 19, 2001

Water-Gas Shift Catalysts with Improved Durability for Automotive Fuel Cell Applications

D. J. Myers, J. Krebs, T. R. Krause, and J. D. Carter

Presented at the 222nd Am. Chem. Soc. National Meeting, Chicago, IL, August 26-30, 2001

Design Modeling of Lithium-Ion Battery Performance

P. A. Nelson, I. Bloom, K. Amine, and G. L. Henriksen

Presented at the Workshop on Development of Advanced Battery Engineering Models, Washington, DC, August 14-16, 2001

Modeling Thermal Management of Lithium-Ion PNGV Batteries

P. A. Nelson, D. W. Dees, K. Amine, and G. L. Henriksen

Presented at the Workshop on Development of Advanced Battery Engineering Models, Washington, DC, August 14-16, 2001

In Situ EXAFS Characterization of the Reduction of Cu-ZSM-5

M. K. Neylon, C. L. Marshall, and A. J. Kropf

Presented at the 11th Users Meeting for the Advanced Photon Source, Argonne National Laboratory, Argonne, IL, October 9-11, 2001

Calendar-Life and Cycle-Life Studies of Advanced Technology Development Program Generation 1 Lithium-Ion Batteries

R. B. Wright, C. G. Motloch, J. R. Belt, J. P. Christophersen, C. D. Ho, R. A. Richardson, I. Bloom, S. A. Jones, V. S. Battaglia, G. L. Henriksen, T. Unkelhaeuser, D. Ingersoll, H. L. Case, S. Rogers, and R. A. Sutula

Presented at the Workshop on Development of Advanced Battery Engineering Models, Washington, DC, August 14-16, 2001

Gen 2 Cell Testing at Argonne National Laboratory

I. Bloom and S. A. Jones

Presented at the ATD Peer Review Meeting, Argonne National Laboratory, Argonne, IL, August 7-8, 2001

Standards for the Design and Fabrication of Gloveboxes

A. A. Frigo

Presented at the Annual Conf. of the Am. Glovebox Soc., San Diego, CA,
July 16–18, 2001

Indirect Nuclear Spin-Spin Couplings in Supercritical CO₂ Solutions of Mercuric bis(n-alkanethiolates)

R. E. Gerald II, M. J. Chen, and J. W. Rathke

Presented at the NMR Symp. of the 43rd Rocky Mountain Conf. on
Analytical Chemistry, Denver, CO, July 29–August 2, 2001

Technical Aspects of the Compression Coil Cell Battery Imager

R. E. Gerald II, J. Sanchez, R. J. Klingler, and J. W. Rathke

Presented at the NMR Symp. of the 43rd Rocky Mountain Conf. on
Analytical Chemistry, Denver, CO, July 29–August 2, 2001

Analysis of Lithium Intercalants in Graphitic Synthetic Metals

R. E. Gerald II, J. Sanchez, R. J. Klingler, and J. W. Rathke

Presented at Argonne National Laboratory, Argonne, IL, February 23,
2001

Applications for Large-Scale Toroid Cavity Detectors

C. R. Jones, Z. Dabi, R. E. Gerald II, L. Nuñez, R. J. Klingler, and J. W. Rathke

Presented at the NMR Symp. of the 43rd Rocky Mountain Conf. on
Analytical Chemistry, Denver, CO, July 29–August 2, 2001

Reformability of Fuels and Fuel Constituents

J. P. Kopasz

Presented at the IEA Annex XV Advanced Fuel Cell Meeting, Lucerne,
Switzerland, July 1–2, 2001

Development of Fuel Processors for Polymer Electrolyte Fuel Cell Systems at Argonne National Laboratory

J. P. Kopasz, R. K. Ahluwalia, S. Ahmed, J.-M. Bae, J. D. Carter, E. D. Doss,
T. R. Krause, J. Krebs, M. Krumpelt, R. Kumar, S. H. D. Lee, D. J. Myers, C.
Pereira, and X. Wang

Presented at the First European Polymer Electrolyte Fuel Cell Forum,
Lucerne, Switzerland, July 2–6, 2001

ANL Aqueous-Processing Effort Progress and Needs

G. F. Vandegrift

Presented at the University of Nevada at Las Vegas, Las Vegas, NV, July
2, 2001

Lithium Insertion Reactions in Intermetallic Electrodes

J. T. Vaughey, C. S. Johnson, L. Fransson, A. J. Kropf, H. Tostmann, R. Benedek, and K. Edstrom

Presented at the Int. Conf. on Materials for Advanced Technologies (ICMAT), Singapore, July 1-6, 2001

RIDE in RIPTO Compensating for Acoustic Ringing in Fast Rotating-Frame Diffusion Imaging

K. Woelk, P. Trautner, H. G. Niessen, and R. E. Gerald II

Presented at the NMR Symp. at the 43rd Rock Mountain Conf. on Analytical Chemistry, Denver, CO, July 29-August 2, 2001

Integrated Fuel Processor Development

S. Ahmed, C. Pereira, S. H. D. Lee, and M. Krumpelt

Presented at the National Laboratory R&D Review, DOE Fuel Cells for Transportation Program, Oak Ridge, TN, June 6-8, 2001

Chemical Separations for Environmental Applications: Innovative Uses for Adsorption and Solvent Extraction

H. A. Arafat

Presented at Tuskegee University, Department of Engineering, Tuskegee, AL, June 12, 2001

Fuel Cell Power: What's Taking so Long?

J. D. Carter

Presented at the 25th Int. Precious Metals Conf., Tucson, AZ, June 9-12, 2001

Sulfur Removal from Reformate

J. D. Carter, T. R. Krause, J. R. Mawdsley, R. Kumar, and M. Krumpelt

Presented at the 2001 National Laboratory R&D Review DOE Fuel Cells for Transportation Program, Oak Ridge, TN, June 6-8, 2001

Novel Organoclay Designs for Nanocomposite Applications

D. J. Chaiko and A. A. Leyva

Presented at the Nanocomposites 2001 Conf., Baltimore, MD, June 4-5, 2001

Supercritical Ethane as a Reaction Medium for Preparation of Monodispersed Silver Nanoparticles

N. M. Dimitrijevic and C. D. Jonah

Presented at the Knowledge Foundation Inc. Nanostructured Materials 2001 Application and Commercialization Conf., Chicago, IL, June 21-22, 2001

Radioactive Colloids from Degradation of Metallic Uranium Reactor Fuel

J. Fortner, C. J. Mertz, M. M. Goldberg, and C. Shelton-Davis

Presented at the 75th Colloid and Surface Science Symposium, Carnegie-Mellon University, Pittsburgh, PA, June 10–13, 2001

A Combinational Method for the Fast Screening of Catalysts for the Oxidation of Benzene to Phenol

E. A. Gardner, C. L. Marshall, L. Iton, C. Hamilton, S. Alerasook, P. E. Mayurik, M. Neurock, P. C. Y. Yeh, F. M. Dautzenberg, R. Overbeek, D. H. Klipstein, and G. McRae

Presented at the 17th Meeting of the North American Catalysis Soc., the Westin Harbour Castle, Toronto, Ontario, Canada, June 3–8, 2001

Heterogeneous Catalysts for Selective Oxidation

E. A. Gardner, C. L. Marshall, L. Iton, and T. J. Pinnavaia

Presented at the University of Texas at El Paso, El Paso, TX, June 26, 2001

Near-Frictionless Carbon Films as Anodes for Lithium-Ion Batteries

R. E. Gerald II, J. Sanchez, R. J. Klinger, J. W. Rathke, A. Erdemir, G. R. Fenske, J. B. Woodford, L. A. Curtis, P. Zapol, and L. E. Iton

Presented at Argonne National Laboratory, Argonne, IL, June 6, 2001

Effects of Fuels and Contaminants on Performance of Reforming Catalysts

J. P. Kopasz, D. V. Applegate, X. Wang, L. E. Miller, S. Ahmed, and M. Krumpelt

Presented at the 2001 National Laboratory R&D Review, DOE Fuel Cells for Transportation Program, Oak Ridge, TN, June 6–8, 2001

Transition Metals on Oxide Ion Conducting Supports as Catalysts for Autothermal Reforming of Hydrocarbons

T. R. Krause, J. D. Carter, J.-M. Bae, J. P. Kopasz, S. Ahmed, and M. Krumpelt

Presented at the 17th North Am. Catalysis Soc. Meeting, Toronto, Canada, June 3–8, 2001

Comparative Analysis of the Polymer Electrolyte and Solid Oxide Fuel Cells for Transportation Applications

R. Kumar

Presented at the Fuel Cells for Transportation National Conf., Chicago, IL, July 16–17, 2001

Characterization of the Chemistry and Physics of Coated Conductor Embodiments by
Molecular Spectroscopy and Synchrotron X-Ray Methods

V. A. Maroni, K. Venkataraman, M. Li, Y. Jee, B. Ma, H. You, J. H. Je, and
W. G. Cullen

Presented at the Fall Meeting of the Mater. Res. Soc., Boston, MA,
November 26–30, 2001

Colloid Stability in Corrosion Leachates of Unirradiated Uranium Metal Fuel

C. J. Mertz, S. F. Wolf, J. Fortner, M. D. Kaminski, and M. M. Goldberg

Presented at the 75th ACS Colloid and Surface Science Symp., Carnegie
Mellon University, Pittsburgh, PA, June 10–13, 2001

Alternative Water-Gas Shift Catalysts

D. J. Myers, J. Krebs, T. R. Krause, J. D. Carter, and M. Krumpelt

Presented at the 2001 DOE Annual National Laboratory R&D Review of
Fuel Cells for Transportation Program, Oak Ridge, TN, June 6–8, 2001

Evaluation of Potential Cathode Materials for SOFC Operation between 500–800°C

J. M. Ralph, J. T. Vaughey, and M. Krumpelt

Presented at the 7th Int. Symp. on Solid Oxide Fuel Cells, Tsukuba, Japan, June 3–
8, 2001

Supercritical Phosphine-Modified Hydroformylation Catalysis

J. W. Rathke, R. J. Klingler, M. J. Chen, and R. E. Gerald II

Presented at the Chemrawn XIV World Congress on Green Chemistry:
Towards Environmentally Benign Products and Processes, Boulder, CO,
June 9–13, 2001

Gen 2 Cell Testing at ANL—An Update

I. Bloom and S. A. Jones

Presented at the ATD Quarterly Review Meeting, Idaho National Energy
and Environmental Laboratory, Idaho Falls, ID, May 8–9, 2001

XAFS Spectra of HREE in Synthetic Zircon

R. J. Finch, A. J. Kropf, and J. M. Hanchar

Presented at the 11th Annual Goldschmidt Conf., Roanoke, VA, May 20–
24, 2001

A Combinational Method for the Fast Screening of Catalysts for the Oxidation of
Benzene to Phenol

E. A. Gardner, L. Iton, C. L. Marshall

Presented at the 2001 Spring Symp., BP Research and Technology Conf.
Center, Naperville, IL, May 22, 2001

Self-Assembled Monolayers as Models for Two-Dimensional Liquid Crystals

R. E. Gerald II and J. W. Rathke

Presented at the University of Illinois, Department of Chemistry, School of Chemical Sciences, Urbana-Champaign, IL, May 3, 2001

NMR Paradigms for the Electronic Environments and Mobilities of Lithium in Graphitic Nanoscale Structures

R. E. Gerald II, J. Sanchez, R. J. Klingler, and J. W. Rathke

Presented at Argonne National Laboratory, Argonne, IL, May 2, 2001

New Electrode Materials for Rechargeable Lithium Batteries

C. S. Johnson

Presented at the Department of Environmental Chemistry and Technology, University of Wisconsin, Madison, WI, May 11, 2001

Layered $(1-x)\text{Li}_2\text{MnO}_3 \bullet x\text{LiMnO}_2$ ($\text{M}=\text{Ni, Co, Cr, or Mn}$) Electrodes for Lithium Batteries

C. S. Johnson and M. M. Thackeray

Presented at the Lithium Battery Discussion Workshop (LiBD) Meeting, Institute for Chemistry on Condensed Materials of Bordeaux (CNRS), Bordeaux, Aracachon, France, May 27–June 1, 2001

Phosphine-Modified Hydroformylation in Green Solvent

R. J. Klingler, J. W. Rathke, M. J. Chen, and R. E. Gerald II

Presented at the 2001 Spring Symp. of the Catalysis Club of Chicago, BP Naperville Research and Technology Center, Naperville, IL, May 22, 2001

Challenges in Reforming Gasoline: All Components Are Not Created Equal

J. P. Kopasz, S. Ahmed, M. Krumpelt, and P. Devlin

Presented at the Soc. of Automotive Engineers Fuels and Lubricants Meeting, Orlando, FL, May 7–9, 2001

Proof-of-Concept Flowsheet Tests for Cesium Removal from Tank Waste by Caustic-Side Solvent Extraction

R. A. Leonard, S. B. Aase, H. A. Arafat, D. B. Chamberlain, C. Conner, M. C. Regalbuto, and G. F. Vandegrift

Presented at the 25th Actinide Separation Conf., Boise, ID, May 14–18, 2001

Fundamental Studies of Ceramic/Metal Interfacial Reactions at Elevated Temperatures

S. M. McDeavitt, G. W. Billings, J. E. Indacochea

Presented at the 6th Int. Conf. on Brazing, High Temperature Brazing and Diffusion Bonding, Aachen, Germany, May 8–10, 2001

Low Temperature Steam Reforming of Methanol over Layered Double Hydroxide-Derived Catalysts

S. R. Segal, K. B. Anderson, K. A. Carrado, and C. L. Marshall

Presented at the Catalysis Club of Chicago Meeting, Naperville, IL May 22, 2001

Demonstration of the UREX Process

G. F. Vandegrift, L. Nuñez, D. L. Bowers, J. Sedlet, and J. J. Laidler

Presented at the 25th Actinide Separations Conf., Boise, Idaho, May 14ñ18, 2001

The Role of Brannerite in the Corrosion of a Titanate Ceramic for Pu Disposition

A. J. Bakel, C. J. Mertz, D. B. Chamberlain, M. K. Nole, and J. K. Basco

Presented at the Am. Ceram. Soc. 103rd Annual Meeting and Exposition, Indianapolis, IN, April 22ñ25, 2001

The Corrosion of a Fluorocanasite-Glass Composite Dental Ceramic

A. J. Bakel, M. M. Siddiqui, E. C. Buck, J. L. Holly, and N.-Z. Zhang

Presented at the Am. Ceram. Soc. 103rd Annual Meeting and Exposition, Indianapolis, IN, April 22ñ25, 2001

An HLW Glass Degradation Model for TSPA-SR

W. L. Ebert and J. C. Cunnane

Presented at the 9th Int. High-Level Radioactive Waste Management Conf., Las Vegas, NV, April 29ñMay 3, 2001

Long-Term Corrosion Tests with Hanford Glasses

W. L. Ebert, M. A. Lewis, and N. L. Dietz

Presented at the Am. Ceram. Soc. 103rd Annual Meeting and Exposition, Indianapolis, IN, April 22ñ25, 2001

Modeling NP Concentrations in a Breached CSNF Waste Package

R. J. Finch and J. C. Cunnane

Presented at the 2001 Int. High-Level Radioactive Waste Management Conf., Am. Nucl. Soc., Las Vegas, NV, 2001

Modeling Neptunium Concentrations in a Breached Waste Package with Commercial Spent Nuclear Fuel

R. J. Finch, and J. C. Cunnane

Presented at the 9th Int. High-Level Radioactive Waste Management Conf., Am. Nucl. Soc., Las Vegas, NV, April 29ñMay, 3, 2001

¹²⁹I Release Fractions in Unsaturated Tests with Fast-Flux MOX Fuels

P. A. Finn, Y. Tsai, and M. M. Goldberg

Presented at the 9th Int. High-Level Radioactive Waste Management Conf., April 29–May 3, 2001, Las Vegas, NV

Corrosive Alteration of N-Reactor Fuel Exposed to Unsaturated Conditions Using Simulated Groundwater

J. Fortner, C. J. Mertz, and M. M. Goldberg

Presented at the Proc. of the 2001 Int. High-Level Radioactive Waste Management Conference, Las Vegas, NV, April 29–May 3, 2001

Macroscopic SAMs of Mercury Thiolates Investigated by NMR Spectroscopy and Imaging

R. E. Gerald II, J. W. Rathke, and L. E. Iton

Presented at the Fundamentals and Applications of Mesoscopic Self-Assembly Workshop, Materials Research Science and Engineering Center, The University of Chicago, Chicago, IL, April 20, 2001

In Situ NMR of Incipient Thin Films of Synthetic Metals

R. E. Gerald II, J. Sanchez, R. J. Klingler, and J. W. Rathke

Presented at the NMR Symp. of the 43rd Rocky Mountain Conf. on Analytical Chemistry, Denver, CO, July 29–August 2, 2001

Combinatorial Screening for the Direct Catalytic Oxidation of Benzene to Phenol

C. Hamilton, E. A. Gardner, C. L. Marshall, L. Iton

Presented at the ACS Spring Symp., April 1–5, 2001

Towards a Better Understanding of Rare Earth Element Partition Coefficients in Zircon

J. M. Hanchar, R. J. Finch, E. B. Watson, and P. W. O. Hoskin

Presented at the 11th Annual Meeting of the European Union of Geochemistry, Strasbourg, France, April 8–12, 2001

Gen 1 Cell Development and Calendar Life Study

G. L. Henriksen, I. Bloom, and K. Amine

Presented at the METI/LIBES DOE/USABC Meeting, Honolulu, HI, April 10–11, 2001

Corrosion of Breached Aluminide Fuel under Potential Repository Conditions

M. D. Kaminski and M. M. Goldberg

Presented at the 2001 Int. High Level Radioactive Waste Management Conf., Las Vegas, NV, April 29–May 3, 2001

Overview of Autothermal Reforming Catalyst Development at ANL

T. R. Krause

Presented at Argonne National Laboratory, Argonne, IL, April 16, 2001

Environmental Considerations of Transmutation

J. J. Laidler

Presented at the NERAC Subcommittee Meeting, Washington, DC, April 18, 2001

Technical Progress: Separations Technologies

J. J. Laidler

Presented at the NERAC Subcommittee Meeting, Washington, DC, April 18, 2001

Proliferation Implications of Waste Transmutation

J. J. Laidler

Presented at the NERAC Subcommittee Meeting, Washington, DC, April 18, 2001

Monitoring Consistency of Ceramic Waste Form

M. A. Lewis and W. L. Ebert

Presented at the 103rd Am. Ceram. Soc. Annual Meeting and Exposition, Indianapolis, IN, April 22-25, 2001

Determination of K_d Values in the Base-Side Processing of Mo-99 Separation from Leu Irradiation Targets

J. H. Meiser, G. F. Vandegrift, H. Cols, C. Conner, and S. B. Aase

Presented to the Am. Nucl. Soc. National Meeting, San Diego, CA, April 1-5, 2001

Release of Plutonium from the EBR-II Ceramic Waste Form

L. R. Morss, E. C. Buck, C. J. Mertz, and W. L. Ebert

Presented at the Am. Ceram. Soc. 103rd Annual Meeting, Indianapolis, IN, April 22-25, 2001

Qualification Testing of Glass-Bonded Sodalite, A Ceramic Waste Form for Disposition of Sodium-Bonded Spent Reactor Fuel

L. R. Morss, W. L. Ebert, and C. J. Mertz

Presented at the Am. Chem. Soc. Meeting, San Diego, CA, April 1-5, 2001

Bifunctional Catalysts for Selective Catalytic Reduction of NO_x

M. K. Neylon, C. L. Marshall, L. C. Satek, M. E. Carrera

Presented at the ACS Spring Symp., San Diego, CA, April 1-5, 2001

Fuel Cells for Buildings Program

W. M. Swift and R. Fiskum

Presented at the Institute of Electrical and Electronics Engineers Power Energy Soc. Summer Power Meeting, Vancouver, British Columbia, Canada, July 15-19, 2001

Recent Advances in Electrode Materials for Lithium Batteries

M. M. Thackeray, J. T. Vaughey, and C. S. Johnson

Presented at the 221st Meeting of the Am. Chem. Soc., San Diego, CA, April 1-5, 2001

The Role of Fuel Processing in (Commercialization of) Fuel Cell Electric Vehicles

S. Ahmed, J.-M. Bae, J. P. Kopasz, M. Krumpelt

Presented at the Int. Symp. in Future Fuels for Advanced Vehicles, PDVSA-INTEVEP, Caracas, Venezuela, March 21, 2001

Test Bench Results of Yuasa Ni/MH Batteries

I. Bloom, B. W. Cole, A. F. Tummillo, and W. H. DeLuca

Presented at the SAE World Congress, Detroit, MI, March 5-8, 2001

Having A Science Career and Having a Life

J. M. Copple

Presented at the Science Careers in Search of Women Conf., Argonne National Laboratory, Argonne, IL, March 16, 2001

Nuclear Materials in a Geologic Repository: The Chemistry of Everything

J. Fortner

Presented at Argonne National Laboratory, Argonne, IL, February 19, 2001

What Does a Lab Manager Do and How Do They Do It?

D. W. Green

Presented at Pittcon 2001: Symp. on Laboratory Management, New Orleans, LA, March 4-9, 2001

Stabilization of Transition Metal Oxides for Lithium Batteries

A. J. Kahaian, C. S. Johnson, M. M. Thackeray, and K. D. Kepler

Presented at the Int. Battery Association (IBA) Symp. Conf., Kwa-Maritane, Pilansberg National Park, South Africa, March 11-14, 2001

An *In-Situ* X-Ray Absorption Spectroscopy Study of InSb Electrodes in Lithium Batteries

A. J. Kropf, H. Tostmann, C. S. Johnson, J. T. Vaughey, and M. M. Thackeray

Presented at the MRCAT Advisory Committee, Advanced Photon Source, Argonne National Laboratory, Argonne, IL, March 2001

U. S. DOE Sponsored Study on SOFC Applications in the Transportation Industry

M. Krumpelt and J. H. Hirschenhofer

Presented at the Second Solid State Energy Conversion Alliance
Workshop, Arlington, VA, March 29–30, 2001

Solid Oxide Fuel Cell Research at Argonne National Laboratory

R. Kumar, R. Ahluwalia, T. A. Cruse, J. M. Ralph, X. Wang, and M. Krumpelt

Presented at the 2nd Solid State Energy Conversion Alliance Workshop,
Arlington, VA, March 29–30, 2001

Developing Catalytic Reformers for Use in Fuel Cells

C. L. Marshall

Presented at the MSI Workshop on New Technologies: Accelerate the
R&D of Fuel Cell and Battery Technologies, Windsor, CT, March 1, 2001

Solid Phase Microextraction (SPME) Screening for Chemical Warfare Agents

J. F. Schneider, A. S. Boparai, and L. L. Reed

Presented at PITTCNN 2001, New Orleans, LA, March 4–9, 2001

Intermetallic Electrodes for Lithium Batteries: The Significance of Face-Centered-Cubic Structures

M. M. Thackeray, J. T. Vaughey, C. S. Johnson, R. Benedek, L. Fransson,

E. K. Edstrom, and J. O. Thomas

Presented at the 18th Int. Seminar and Exhibit on Primary and Secondary
Batteries, Ft. Lauderdale, FL, March 2001

Gen 2 Cell Testing at ANL—An Update

I. Bloom and S. A. Jones

Presented at the ATD Quarterly Review Meeting, Lawrence Berkeley
National Laboratory, Berkeley, CA, February 8–9, 2001

Compact Fuel Cell Power Source

M. Krumpelt

Presented at the DOE NN-20 Power Source Workshop, Santa Barbara,
CA, February 6–8, 2001

Automotive Fuel Cell Systems Modeling and Analysis

R. Kumar, R. Ahluwalia, E. Doss, H. Geyer, and M. Krumpelt

Presented at the 2001 Annual National Laboratory R&D Meeting DOE
Meeting, DOE Fuel Cells for Transportation Program, Oak Ridge, TN,
June 6–8, 2001

Pyrochemical Processing

J. J. Laidler

Presented at the Fifth Accelerator and Transmutation Technology Workshop, Korean Atomic Energy Research Institute (KAERI), Taejon, Korea, February 6, 2001

Status of Fuel Cell Testing at Argonne National Laboratory

E. G. Polzin and I. Bloom

Presented at the DOE Program Review, Argonne National Laboratory, Argonne, IL, February 22, 2001

Corrosion of a Fluorocanite Dental Glass-Ceramic

A. J. Bakel, M. M. Siddiqui, N.-Z. Zhang, K. J. Anusavice, J. L. Holly, and Y. Tsai

Presented at the 25th Annual Int. Conf. on Advanced Ceramics and Composites, January 21–26, 2001

Salt Processing Project: CSSX Flowsheet Test Results

R. A. Leonard

Presented at the Salt Processing Vendor Forum, Augusta, GA, January 30, 2001

Corrosion Testing of Structural Steels in Lead-Based Coolants in Support of ANL Advanced Reactor Concepts

S. M. McDevitt

Presented at Argonne National Laboratory, Argonne, IL, January 26, 2001

Characterization of Oxidation Products on a ZrFe₂-Type Laves Intermetallic Exposed to 200°C Steam

D. P. Abraham, N. Dietz, and N. Finnegan

Presented at the Corrosion 2001 Conf., Houston, TX, March 11–16, 2001

Toroid Cavity NMR Imaging Detector – High Resolution, In-Situ Chemical Analysis of High-Pressure, High-Temperature Industrial Catalysis Processes

R. J. Klingler, J. W. Rathke, M. J. Chen, D. Fremgen, and R. E. Gerald II

Presented at the Gordon Research Conference on Chemistry of Hydrocarbon Resources, Ventura, CA, January 12, 2001

Characterization of Uranium Corrosion Product Colloids by Dynamic Light Scattering

C. J. Mertz, D. L. Bowers, M. M. Goldberg, and C. Shelton-Davis

Presented at the 2001 Int. High-Level Waste Management Conf., Las Vegas, NV, April 29–May 3, 2001